

SYSTEM AND METHOD FOR AUTOMATIC SELECTION OF SERVICE PROVIDER FOR EFFICIENT USE OF BANDWIDTH AND RESOURCES IN A PEER-TO-PEER NETWORK ENVIRONMENT

ABSTRACT OF THE DISCLOSURE

A system and method for distributed function discovery with third party responses in a peer-to-peer network to facilitate efficient use of bandwidth and resources are disclosed. The method for secure automatic selection of a designated service provider in a peer-to-peer network generally comprises broadcasting a digitally signed election initiating packet containing a value for at least one criteria by a sending node, awaiting response time-out period expiry or receipt of a response election packet, broadcasting a digitally signed election result packet indicating the sending node is the designated service provider if response time-out period expiry occurs prior to receipt of a response election packet, and awaiting for, verifying, and storing election result in an election result broadcast if receipt of a response election packet occurs prior to expiry of response time-out period. The election result broadcast may contain a value for the at least one criteria such that verifying the election result includes verifying that the value for at least one criteria in the response election packet wins over the value for at least one criteria in the initiating election packet. The criteria may be, for example, node name, MAC (media access control) address, Internet access, bandwidth, operating system, and processor speed.